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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,496	12/30/2004	Yuzo Yoneyama	Y0647.0150	5396
32172	7590	11/29/2006	EXAMINER	
DICKSTEIN SHAPIRO LLP 1177 AVENUE OF THE AMERICAS (6TH AVENUE) NEW YORK, NY 10036-2714			WEST, JEFFREY R	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/519,496

Applicant(s)

YONEYAMA, YUZO

Examiner

Jeffrey R. West

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

The disclosure is objected to because of the unknown symbols present on page 3, line 26, and page 4, lines 4, 7, 11, and 14.

On page 12, line 26, "mobile station" should be ---base station---.

On page 13, line 1, "mobile station" should be ---base station---.

On page 23, line 17, "If all the variables" should be ---If any of the variables---.

On page 23, lines 24-25, "variables n are '+'" should be ---variables n are "-"---.

On page 23, line 27, "variables n are '+'" should be ---variables n are "-"---.

Appropriate correction is required.

### ***Claim Objections***

2. Claims 1 and 3 are objected to because of the following informalities:

In claim 1, line 16, to avoid confusion, "transmitter/receiver" should be ---transmitter or receiver---.

In claim 3, line 5, to avoid confusion, "transmitter/receiver" should be ---transmitter or receiver---.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph because it recites "from the two powers output from said notification means and the two powers output from said determining means". This limitation is unclear because claim 2 specifies that "said notification receiving means receives, from each of said plurality of communication terminals of a communication partner, notification of both reception power of a signal transmitted from said main apparatus and transmission power of a signal transmitted to said main apparatus" and "said determining means determines, for each communication terminal, the reception powers from said plurality of communication terminals and the transmission powers to said plurality of communication terminals". Therefore, in addition to the fact that there is no power that is designated as being "output" in claim 2, the notification receiving means and determining means each receive a plurality of powers, thereby rendering it unclear to one having ordinary skill in the art as to what "two powers" are being referred.

Claims 3-6 are rejected under 35 U.S.C. 112, second paragraph, because they incorporate the lack of clarity present in parent claim 2.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4, and 7, as may best be understood, are rejected under 35

U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,542,097 to Ward et al.

With respect to claim 1, Ward discloses a failure detecting device characterized by comprising notification receiving means for receiving, from at least one communication terminal of a communication partner (column 9, lines 28-40 and Figure 6), and outputting notification of both reception power of a signal transmitted from a main apparatus (column 6, lines 61-62) and transmission power of a signal transmitted to said main apparatus (column 6, line 66), determining means for determining and outputting the reception power from said communication terminal (column 6, lines 57-58) and the transmission power to said communication terminal (column 6, line 56), propagation loss calculating means for calculating bidirectional propagation losses between said communication terminal and main apparatus, from the two powers output from said notification receiving means and the two powers output from said determining means (column 7, lines 16-38), difference checking means for checking whether a difference between the bidirectional propagation losses falls within a predetermined allowable range (column 8, lines 34-48); and failure determining means for determining that a transmitter/receiver of at least one of said communication terminal and main apparatus has a failure, if said difference checking means determines that the difference falls outside the predetermined

allowable range (column 9, lines 1-27) and for identifying a transmitter or receiver that has a failure based on whether the difference falls outside the allowable range for all the communication devices, and whether a propagation loss of the propagation path to said main apparatus is smaller than a propagation loss of a propagation path to each communication terminal (i.e. a failure is determined if the propagation loss to the main apparatus is smaller than a propagation loss to either communication terminal when such a smaller propagation loss to the main apparatus would cause an inequality in equation 9) (column 9, lines 1-27).

With respect to claim 2, Ward discloses further comprising a plurality of communication terminals (column 6, lines 57-67), wherein said notification receiving means receives, from each of said plurality of communication terminals of a communication partner (column 6, lines 57-67), notification of both reception power of a signal transmitted from said main apparatus (column 6, lines 61-62) and transmission power of a signal transmitted to said main apparatus (column 6, line 66), said determining means determines, for each communication terminal, the reception powers from said plurality of communication terminals (column 6, lines 57-60) and the transmission powers to said plurality of communication terminals (column 6, line 56), said propagation loss calculating means calculates bidirectional propagation losses between each communication terminal and said main apparatus, from the two powers output from said notification receiving means and the two powers output from said determining means (column 7, lines 16-38), said difference checking means checks whether a difference between two of the propagation losses

falls within a predetermined allowable range (column 8, lines 34-48), and said failure determining means determines that a transmitter or receiver of at least one of said communication terminal and main apparatus has a failure, if said difference checking means determines that the difference falls outside the predetermined allowable range (column 9, lines 1-27).

With respect to claim 4, Ward discloses that if said difference checking means determines that the difference falls outside the predetermined allowable range for at least one of said plurality of communication terminals, said failure determining means determines that a transmitter or receiver of each of said communication terminals, which is found to fall outside the predetermined allowable range has a failure (column 6, lines 57-67 and column 9, lines 1-27).

With respect to claim 7, Ward discloses that if it is determined that a propagation loss of a propagation path to said main apparatus is equal to a propagation loss of a propagation path to each of said at least one communication terminal, said failure determining means determines that said communication terminal and main apparatus are normal (column 9, lines 1-27).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Ward in view of U.S. Patent Application Publication No. 2002/0058493 to Ikeda et al.

As noted above, the invention of Ward teaches many of the features of the claimed invention and while Ward does teach a difference checking means that determines whether there is a failure in the communication terminals when the difference falls outside the allowable range, Ward does not explicitly indicate that when the difference falls outside the allowable range for all of the communication terminals, a determination is made that a transmitter/receiver of the main apparatus has a failure.

Ikeda teaches a retransmission control method and apparatus comprising a plurality of receivers that receive a signal transmitted from a main apparatus (0010, lines 1-2) and the plurality of receivers determine if the signal was received correctly or in error (0047, lines 1-4) wherein if all of the plurality of receivers receive the signal in error, it is the signal transmitted from the main apparatus (i.e. a failure in the main apparatus transmitter) that is has caused the error and the not plurality of receivers (0064, lines 5-11).

It would have been obvious to one having ordinary skill in the art to explicitly indicate that when the difference falls outside the allowable range for all of the communication terminals, a determination is made that a transmitter/receiver of the main apparatus has a failure, as taught by Ikeda, because, as suggested by Ikeda, and as one having ordinary skill in the art would recognize, when all of a plurality of



receivers receive a signal in error, there is a high probability that it is the signal sent that contains an error as opposed to each of the receivers having error (0052, lines 1-13 and 0064, lines 5-11), therefore the combination would have improved the fault diagnosis of Ward by logically determining when the signal is in error from a faulty main apparatus and not from the communication terminals themselves.

9. Claim 5, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Ward in view of Ikeda and further in view of U.S. Patent Application Publication No. 2002/0064131 to Boesinger et al.

As noted above, the invention of Ward and Ikeda teaches many of the features of the claimed invention and while the invention of Ward and Ikeda does teach that when the difference falls outside the allowable range for all of the communication terminals, a determination is made that a transmitter/receiver of the main apparatus has a failure, the combination does not provide means for discriminating between a transmitter and receiver failure of the main apparatus.

Boesinger teaches a method for operating a data network wherein a fault is determined based on an increase in attenuation/propagation loss due to the failure/aging of either the transmitter or receiver that causes the increase in attenuation/propagation loss (0006).

It would have been obvious to one having ordinary skill in the art to modify the invention of Ward and Ikeda to provide means for discriminating between a transmitter and receiver failure of the main apparatus, as taught by Boesinger,

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because as is well-known by one having ordinary skill in the art, and suggested by Boesinger, the device that causes an increase in attenuation is the device undergoing a fault and therefore, by determining whether it is the transmitter or receiver undergoing the fault, the combination would have improved the failure analysis by increasing the efficiency of fault detection by distinctly determining which device is failing (0006).

Further, since the invention of Ward and Ikeda teaches determining that it is the main apparatus that has a failure and Boesinger teaches that an increase in attenuation/propagation loss is caused by a failure of either the transmitter or receiver, one having ordinary skill in the art would recognize that if the propagation path to the main apparatus is smaller than a propagation loss of a propagation path to each communication terminal, that the receiver of the main apparatus is causing a smaller propagation loss than the transmitter. Therefore, in light of the teachings of Boesinger, since the transmitter of the main apparatus is causing the larger propagation loss, the transmitter of the main apparatus has failed. Similarly, in a case in which the transmitter of the main apparatus is not causing the larger propagation loss, the receiver of the main apparatus has failed.

10. Claim 6, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Ward in view of U.S. Patent Application Publication No. 2002/0064131 to Boesinger et al.

As noted above, the invention of Ward teaches many of the features of the claimed invention and while the invention of Ward does teach that when the difference falls outside the allowable range for at least one of the communication terminals, a determination is made that a transmitter or receiver of the communication terminal has a failure, Ward does provide means for discriminating between a transmitter and receiver failure of the communication terminal.

Boesinger teaches a method for operating a data network wherein a fault is determined based on an increase in attenuation/propagation loss due to the failure/aging of either the transmitter or receiver that causes the increase in attenuation/propagation loss (0006).

It would have been obvious to one having ordinary skill in the art to modify the invention of Ward to provide means for discriminating between a transmitter and receiver failure of the communication terminal, as taught by Boesinger, because as is well-known by one having ordinary skill in the art, and suggested by Boesinger, the device that causes an increase in attenuation is the device undergoing a fault and therefore, by determining whether it is the transmitter or receiver undergoing the fault, the combination would have improved the failure analysis by increasing the efficiency of fault detection by distinctly determining which device is failing (0006).

Further, since the invention of Ward teaches determining that it is the communication terminal that has a failure and Boesinger teaches that an increase in attenuation/propagation loss is caused by a failure of either the transmitter or receiver, one having ordinary skill in the art would recognize that if the propagation

path to the main apparatus is smaller than a propagation loss of a propagation path to each communication terminal, that the transmitter of the communication terminal is causing a smaller propagation loss than the receiver. Therefore, in light of the teachings of Boesinger, since the receiver of the communication terminal is causing the larger propagation loss, the receiver of the communication terminal has failed. Similarly, in a case in which the receiver of the communication terminal is not causing the larger propagation loss, the transmitter of the communication terminal has failed.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ward in view of JP Patent Application Publication No. 63-200626 to Iwasaki et al.

As noted above, the invention of Ward teaches many of the features of the claimed invention and while Ward does teach a difference checking means that determines whether there is a failure in the communication terminals when the difference falls outside the allowable range, Ward does not explicitly include a failure notifying means for notifying said communication terminal of a detected failure.

Iwasaki teaches an inductive communication system including a base station that determines when a propagation loss between a mobile station and the base station reaches a prescribed value and, using a corresponding means, notifies the base station of such propagation loss failure (abstract).

It would have been obvious to one having ordinary skill in the art to modify the invention of Ward to explicitly include a failure notifying means for notifying said

communication terminal of a detected failure, as taught by Iwasaki, because, as suggested by Iwasaki, the combination would have improved the operation of Ward by preventing operation of the communication terminal with excessive propagation loss due to failed transmission by raising an alarm when the propagation loss reaches a prescribed value (Abstract).

### ***Response to Arguments***

12. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

The following arguments, however, are noted:

In response to Applicant's request for clarification regarding the preliminary amendments to the specification, the Examiner asserts that the preliminary amendment could not be entered because the changes had already been made. Specifically, the specification as filed on December 30, 2004, has pages 22-23 stamped as "ART 34 AMDT"

Applicant argues:

According to the invention recited in independent Claim 1, when the propagation loss to one main apparatus from a communication terminal and the propagation loss to a communication terminal from the main apparatus are calculated, and the difference of two propagation losses does not fall within the allowable range, it is determined that a transmitter/receiver of at least one of the communication terminal and the main apparatus has a failure.

On the other hand, column 9, lines 1-27, of Ward et al. (US 5,542,097) states that the satisfaction of equation (9) is required. Equation (9) indicates that the

difference in uplink and downlink pathloss in a serving cell and the difference in uplink and downlink pathloss in a target cell are equal. Moreover, in Ward et al., if the difference between the difference in a serving cell and the difference in a target cell is smaller than a predefined threshold, it is regarded that equation (9) is satisfied.

Ward et al. determines whether the difference of the pathloss difference between two cells is inside of the allowable range, not whether the difference of the pathloss in one cell is inside of the allowable range. For at least this reason Ward et al. is different from the invention defined by amended Claim 1.

The Examiner asserts that Applicant's arguments that Ward teaches determining whether the difference of the pathloss difference between two cells is inside of the allowable range and therefore does not determine whether the difference of the pathloss of one cell is inside of the allowable range is not persuasive.

The Examiner asserts that the equations listed in column 7, lines 16-38 are used to calculate bidirectional propagation losses between the communication terminal and main apparatus, from the two powers output from said notification receiving means and the two powers output from said determining means. Applicant is correct in that these equations are used to calculate bidirectional propagation losses for two different communication cells.

Equation 5 in column 8, lines 34-48, then checks whether a difference between the bidirectional propagation losses falls within a predetermined allowable range by determining an error value  $m$ . This difference is determined for one of the communication cells.

Now turning to Equation 9 in column 9, lines 1-27, a transmitter or receiver failure is determined based on whether the previously determined difference causes an inequality between the left and right sides of the equation. If there is no transmitter

or receiver error in the communication cells, within a predetermined tolerance, the equation will maintain its equality. However, if the pathloss difference for either of the communication cells is outside the allowable tolerance, the equation becomes unequal indicating that there is a failure in the respective communication cells.

Therefore, contrary to Applicant's argument that Ward et al. determines whether the difference of the pathloss difference between two cells is inside of the allowable range, Ward relates the pathloss differences of two cells, but a pathloss difference that exceeds a predetermined allowable range for either, and not both, of the communication cells, indicates a failure. Therefore, Ward meets the claimed limitation of determining that a transmitter/receiver of at least one of said communication terminal and main apparatus has a failure, if said difference checking means determines that the difference falls outside the predetermined allowable range.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

U.S. Patent No. 6,278,879 to Western et al. teaches a method for determining a transmit power of a base station in a cellular communication system.

U.S. Patent Application Publication No. 2002/0016177 to Miya et al. teaches a transmission power control apparatus and radio communication apparatus.

U.S. Patent No. 5,487,176 to Yoneyama teaches a reception amplifier failure detection device and method for radio transceiver apparatus.

U.S. Patent No. 4,807,224 to Naron et al. teaches a multicast data distribution system and method.

U.S. Patent No. 6,400,953 to Furukawa teaches a CDMA type mobile radio communication system capable of realizing an effective system operation without excess and deficiency of radio base station simultaneously connected.

U.S. Patent No. 6,405,021 to Hamabe teaches a method of controlling transmission power in cellular system and base station apparatus.

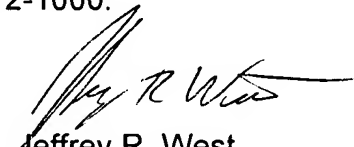
JP Patent Application Publication No. 10-276127 to Seki teaches radio base station equipment with fault detection function and mobile communication system using the same.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeffrey R. West  
Examiner – AU 2857

November 27, 2006